

Nano-Antenna For Terahertz (THz) Medical Imaging Applications

Completed Technology Project (2012 - 2012)



Project Introduction

As a result of technological breakthroughs, research and applications in the Terahertz (THz) radiation system are experiencing explosive growth. The non-ionizing and penetrative nature of THz radiation makes it promising for detection in the medical imaging applications. The THz image can be identified as markers of malignant tissues. Because the requirements for THz instruments are very ambitious, there is a need for new nano-antenna configurations, and for refining existing configurations and technologies for top performance. In this study, we will investigate various THz nano-antennas to improve the performance of the nano-antenna with innovative designs. The objective of this study is to highlight current and emerging research in the THz nano-antenna fields, as well as applications of this technology.

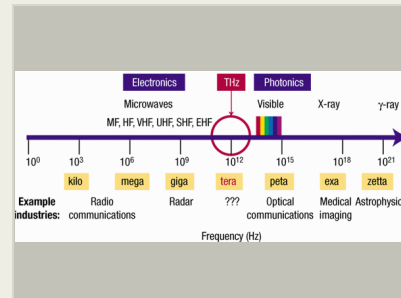
Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas

Primary U.S. Work Locations

Texas



Project Image Nano-Antenna For Terahertz (THz) Medical Imaging Applications

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

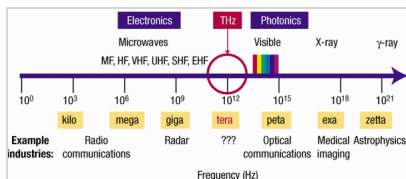
Center Innovation Fund: JSC CIF

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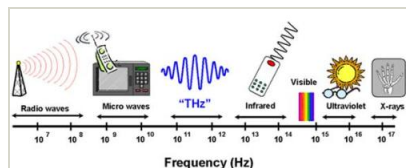
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Images

**12435-1376067004498.gif**

Project Image Nano-Antenna For Terahertz (THz) Medical Imaging Applications
(<https://techport.nasa.gov/image/2186>)

**12435-1376067203539.jpg**

Project Image Nano-Antenna For Terahertz (THz) Medical Imaging Applications
(<https://techport.nasa.gov/image/2187>)

Project Management

Program Director:

Michael R Lapointe

Program Manager:

Carlos H Westhelle

Project Manager:

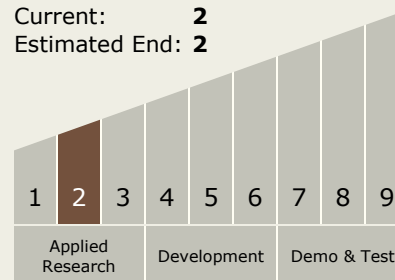
Shian-uei Hwu

Principal Investigator:

Shian-uei Hwu

Technology Maturity (TRL)

Start: 2
Current: 2
Estimated End: 2



Technology Areas

Primary:

- TX08 Sensors and Instruments
 - TX08.1 Remote Sensing Instruments/Sensors
 - TX08.1.1 Detectors and Focal Planes